

We claim:-

1. An emulsifier-free antifoam which is obtainable by mixing
 - 5 a) from 80 to 99% by weight of at least one finely divided, virtually water-insoluble, inert solid with
 - b) from 1 to 20% by weight of at least one hydrophobic, organic compound which has an antifoam action and is solid at room temperature
- 10 in the absence of a solvent in a shear gradient such that the particle size of the compounds (b) having an antifoam action is reduced to a mean particle size of from 0.5 to 15 μm .
- 15 2. An emulsifier-free antifoam as claimed in claim 1, wherein the mixing of the components (a) and (b) is effected in an extruder or kneader.
3. An emulsifier-free antifoam as claimed in claim 1, wherein the mixing of the components (a) and (b) is carried out in a fluidized bed.
- 20 4. An emulsifier-free antifoam as claimed in any of claims 1 to 3, wherein kaolin, sheet silicates, chalk, calcium sulfate, barium sulfate, talc, titanium dioxide, alumina, silica, satin white, cellulose, groundwood, urea/formaldehyde pigments, melamine/formaldehyde pigments, starch and/or crosslinked starch are used as the finely divided, inert solids (a).
- 25 5. An emulsifier-free antifoam as claimed in any of claims 1 to 4, wherein a C_{12} - to C_{26} -alcohol, distillation residues which are obtainable in the preparation of alcohols of >10 carbon atoms by oxo synthesis or by the Ziegler process, alkoxyated alcohols of 12 to 26 carbon atoms, 3-thiaalkan-1-ols, 3-thiaoxaalkan-
30 1-ols, 3-thiadioxalkanol-1-ols and esters of said 3-thiaalkanols, 3-thiaoxaalkanols and thiadioxadialkanols are used as the hydrophobic compounds (b) having an antifoam action.
- 35 6. An emulsifier-free antifoam as claimed in any of claims 1 to 5, wherein
 - (i) a C_{12} - to C_{26} -alcohol, distillation residues which are obtainable in the preparation of alcohols of >10 carbon atoms by oxo synthesis or by the Ziegler process, alkoxyated alcohols of 12 to 26 carbon atoms, 3-thiaalkan-1-ols, 3-thiaoxaalkanols and thiadioxalkanol in combination with

- 5 (ii) at least one compound from the group consisting of the glyceryl esters of fatty acids having at least 10 carbon atoms in the molecule, C₁₂- to C₃₀-alcohols, alkoxylated alcohols, esters of sugar alcohols having at least 4 OH groups or at least 2 OH groups and at least one intramolecular ether bond and a fatty acid having at least 20 carbon atoms in the molecule, fatty acid esters of C₁₂- to C₂₂-carboxylic acids with monohydric to trihydric alcohols, ketones having melting points above 45°C, the polyglyceryl esters which are obtainable by at least 20% esterification of polyglycerols which have at least 2 glycerol units with at least one C₁₂- to C₃₆-fatty acid, reaction products of mono- and diglycerides with dicarboxylic acids, reaction products of glycerol with dicarboxylic acids, which reaction products have been esterified with at least one C₁₂- to C₃₆-fatty acid, polyethylene waxes, natural waxes, hydrocarbons having boiling points above 200°C and mixtures of said compounds
- 10
- 15 are used as component (b).
7. An emulsifier-free antifoam as claimed in any of claims 1 to 6, wherein
- 20 (a) a crosslinked starch and/or cellulose fibers are used as the finely divided, inert solids and
- (b) at least one C₁₂- to C₃₀-alcohol and a polyglyceryl ester of a carboxylic acid of 18 to 36 carbon atoms are used as the hydrophobic organic compound having an antifoam action.
- 25
8. An emulsifier-free antifoam as claimed in any of claims 1 to 7, wherein
- (a) a crosslinked starch and/or cellulose fibers are used as the finely divided, inert solids and
- 30 (b) at least one C₁₂- to C₃₀-alcohol, a polyglyceryl ester of a carboxylic acid of 18 to 36 carbon atoms and further organic esters and/or amides having an antifoam action are used as the hydrophobic organic compound having an antifoam action.
- 35 9. An emulsifier-free antifoam as claimed in any of claims 1 to 8, wherein the component (a) is contained in an amount of from 88 to 95% by weight and the component (b) in an amount of from 5 to 12% by weight in the mixture, and wherein the mean particle size of the component (b) is from 0.5 to 5 µm.

10. A process for the preparation of emulsifier-free oil-in-water dispersions of mixtures of (a) at least one finely divided, virtually water-insoluble, inert solid and (b) at least one hydrophobic, organic compound which has an antifoam action and is solid at room temperature by mixing the components (a) and (b) at up to 100°C and emulsifying/dispersing the mixture in water, wherein the mixture contains the compounds of component (a) in an amount of from 80 to 99% by weight and the compounds of component (b) in an amount of from 1 to 20% by weight, and wherein the components (a) and (b) are mixed in the absence of emulsifiers in an extruder or kneader in a manner such that the mean particle size of the component (b) in the mixture is brought to 0.5 to 15 µm.
11. A process as claimed in claim 10, wherein the components (a) and (b) are mixed in a kneader at least until the mean particle size of the component (b) in the mixture is from 0.5 to 5 µm.
12. The use of the oil-in-water dispersions obtainable by the process of claims 10 and 11 as an emulsifier and/or deaerator for aqueous, disperse or nondisperse liquids.
13. The use as claimed in claim 12, wherein the oil-in-water dispersions are used as antifoams and/or deaerators in the paper industry, in the food industry and in wastewater treatment plants.